**Option Printer**

# i-Options
# LK-101 v2/102/103 v2/105

## SERVICE MANUAL

**Applied Machines:** **d-Color MF360/MF280/MF220**
**d-Color MF651/MF551/MF451**

Code Y110581-2

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# OUTLINE

# 1. PRODUCT OUTLINE

## 1.1 Available function for i-Option

△1 • The functions available for i-Option LK-101 v2/102/103 v2/105 are as follows.

| Function | Overview | Application | | | |
|---|---|---|---|---|---|
| | | LK-101 v2 | LK-102 | LK-103 v2 | LK-105 |
| Web browser | • From the control panel, access content on the Internet or Intranet, in order to display or print this content. Additionally, you can operate PageScope Web Connection to use documents saved in user boxes. | ✓ | | ✓ | |
| Image panel | • This is a new control panel user interface. It enables the whole operation workflow to be easily grasped. | ✓ | | ✓ | |
| Photo registration | • You can add photo data to a registered address book entry. Registered photos are reflected in the Destination List of the Image Panel. | ✓ | | ✓ | |
| Assignment of application keys | • Enhanced function can be assigned to the application key. | ✓ | ✓ | ✓ | |
| PDF processing | • When transmitting documents in PDF format, you can encrypt PDF file with password or digital ID, add a digital signature, and specify properties. | | ✓ | ✓ | |
| △1 Searchable PDF | • You can create a text searchable PDF file by pasting transparent text data on the area of a document in which characters are recognized through an OCR process. You can create a searchable PDF file when saving or sending an original in the PDF format using the scan or User Box functions. | | | | ✓ |

## 1.2 Product specification

### 1.2.1 Web browser function

- Main specifications of the web browser installed are as follows.

| | |
|---|---|
| Browser engine | NetFront |
| Supported protocols | HTTP, HTTPS, TCP/IP |
| Supported markup/script languages | HTML, CSS, JavaSrcript, Ajax |
| Supported image formats | JPEG, BMP, PNG, GIF, Animation GIF, PDF, XPS, Flash |
| Supported SSL/TLS versions | SSL2.0, SSL3.0, TLS1.0 |
| Supported character codes | Western (ISO-8859-1), Unicode (UTF-8), Simplified Chinese (GB2312), Traditional Chinese (Big5), Japanese (Shift-JIS), Japanese (ISO-2022-JP), Japanese (EUC-JP) |
| Display modes | Normal, Just-Fit Rendering, Smart-Fit Rendering |
| PDF viewer | Adobe® Reader® LE |
| Flash player | Adobe® Flash® Player 7 |

**NOTE**

**The Flash player installed on the MFP does not support the following:**

- **The function to trigger an event caused by a key operation.**
- **The function to paste or acquire data such as character strings from the clipboard.**
- **The context menu.**
- **The Flash printing function.**
- **The function to execute JavaScript from Flash or to operate Flash by JavaScript.**
- **A screen that has no window (pop-up).**
- **The Flash bookmark function.**
- **The function to send/receive data in real time using the Flash Media Server.**
- **The function to communicate via the XMLSocket.**

### 1.2.2 Photo registration function

- Specifications of the photo data to be registered are as follows.

| | |
|---|---|
| File type | BMP format, 24-bit color, uncompressed |
| Image size | 48 x 48 pixels |
| Data size | 6,966 Byte |

# ADJUSTMENT/SETTING

## 2. HOW TO USE THE ADJUSTMENT/SETTING SECTION

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

**Advance checks**

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

**⚠ CAUTION**

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

# 3. SERVICE MODE

△1
- When using i-Option LK-101 v2/102/103 v2/105, license management is done with the following procedures. [Service Mode] → [Billing Setting] → [License Management]
- [License Management] can set Activation/Deactivation of each i-Option functions, Repair/Initialize of functions for troubleshooting, or etc.

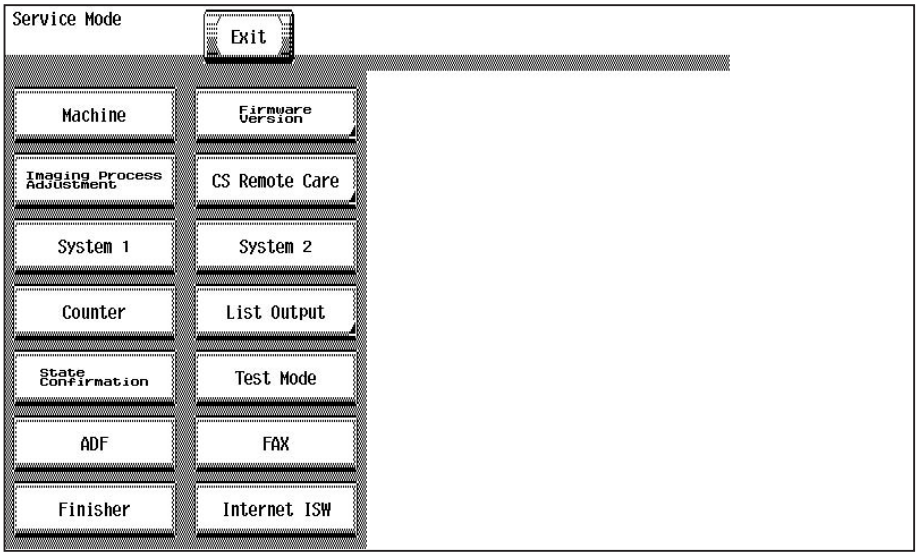
## 3.1 Billing Setting function setting procedure

1. Press the Utility/Counter key.
2. Touch [Check Details] on meter count display.
3. Press the following keys in this order.; Stop → 0 → 0 → Stop → 0 → 1

**NOTE**

- **When selecting [CE Authentication] under [Enhanced Security] available from Service Mode, authentication by CE password is necessary.**
  **Enter the 8 digits CE password, and touch [END].**
  **(The initial setting for CE password is "92729272.")**
- **When the following setting is set to "ON", CE password authentication is necessary.**
  **[Administrator Settings] → [Security Settings] → [Enhanced Security Mode]**
- **If a wrong CE password is entered, re-enter the right password. The machine will not enter Service Mode unless the CE password is entered correctly. To return to the Basic screen, turn OFF the sub power switch and turn it ON again.**
  **When the following setting is set to "Mode 2", operation will be prohibited since it indicates authentication failure by failing to enter the correct CE password within the specified number of times.**
  **if the access lock is activated, the lock release timer starts to operate by input the Stop → 0 → 9 → 3 → 1 → 7 in [Meter Count] → [Check Details] → [Coverage Rate] after the main power switch is turned OFF and On. When the timer reaches the time specified in this setting, the access lock is released.**
- **The service code entered is displayed as "*."**

4. The Service Mode menu will appear.

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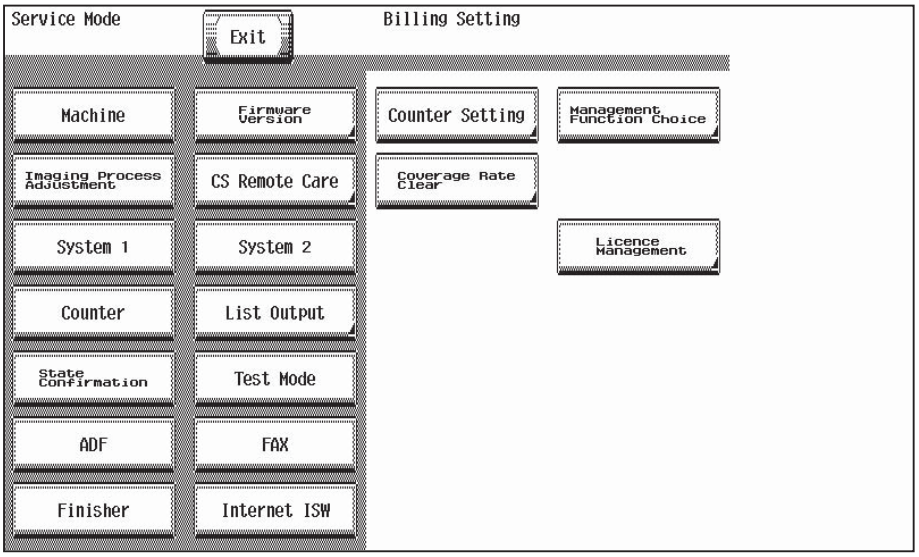
*5.* Press the following keys in this order.
Stop → 9

*6.* Billing Setting menu will appear.

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## 3.2 Billing Setting function tree

| Service Mode | | | Ref. Page |
|---|---|---|---|
| Billing Setting | Counter Setting | | *1 |
| | Management Function Choice | | |
| | Coverage Rate Clear | | |
| | License Management *2 | Activation *2 | P.6 |
| | | Deactivation *2 | P.6 |
| | | Repair *2, 3 | P.6 |
| | | Initialize *2 | P.6 |
| | | Request Code *2 | P.6 |
| | | List *2 | P.7 |
| | | Function list *2 | P.7 |

*1: For details, see the main body service manual.
*2: It is displayed only when the expanded memory furnished with the optional upgrade kit UK-203 is mounted.
*3: It is displayed only when “license management error” occurs.
See P.22

## 3.3 Settings in the License management

### 3.3.1 Activation

| | |
|---|---|
| Functions | • To activate i-Option functions. |
| Use | • To activate i-Option functions with CE.<br>• The functions can be activated by selecting the desired function and enter the appropriate license code and function code.<br>• Administrators also can activate i-Option functions through Administrator Settings. |
| Setting/ Procedure | See P.8 |

### 3.3.2 Deactivation

| | |
|---|---|
| Functions | • To deactivate i-Option functions. |
| Use | • To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc.<br>• The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code. |
| Setting/ Procedure | See P.12 |

### 3.3.3 Repair

| | |
|---|---|
| Functions | • To repair license management information. |
| Use | • To be used when license management information is lost due to replacement of NVRAM board or service EEPROM board or any other trouble.<br>• License management information can be repaired by acquiring repair code with repair request code, and entering the repair code. |
| Setting/ Procedure | See P.17 |

### 3.3.4 Initialize

| | |
|---|---|
| Functions | • To initialize license management information. |
| Use | • To be used when license management information cannot be repaired.<br>• License management information should be initialized when the machine fails to generate request code or repair request code due to any trouble and the information cannot be repaired. |
| Setting/ Procedure | See P.20 |

### 3.3.5 Request Code

- When the license management error is occurred, it will not be displayed until the repair code is input.

| | |
|---|---|
| Functions | • To display and print request code and serial number. |
| Use | • To check the request code and serial number. |
| Setting/ Procedure | • Set A4S or 8 $^{1}/_{2}$ x 11S paper to the tray, and press start key at request code screen to print. |

### 3.3.6 List

| | |
|---|---|
| Functions | • To display and print deactivation complete code and serial number. |
| Use | • To display and print deactivation complete code and serial number. |
| Setting/ Procedure | • Set A4S or 8 $^1/_2$ x 11S paper to the tray, and press start key at deactivation complete code screen to print. |

### 3.3.7 Function List

| | |
|---|---|
| Functions | • To display activated functions. |
| Use | |

## 3.4 License Management function setting procedure

- Each setting procedure of License Management function is as follows.
- You need to access License Management System (LMS) to implement each function setting.

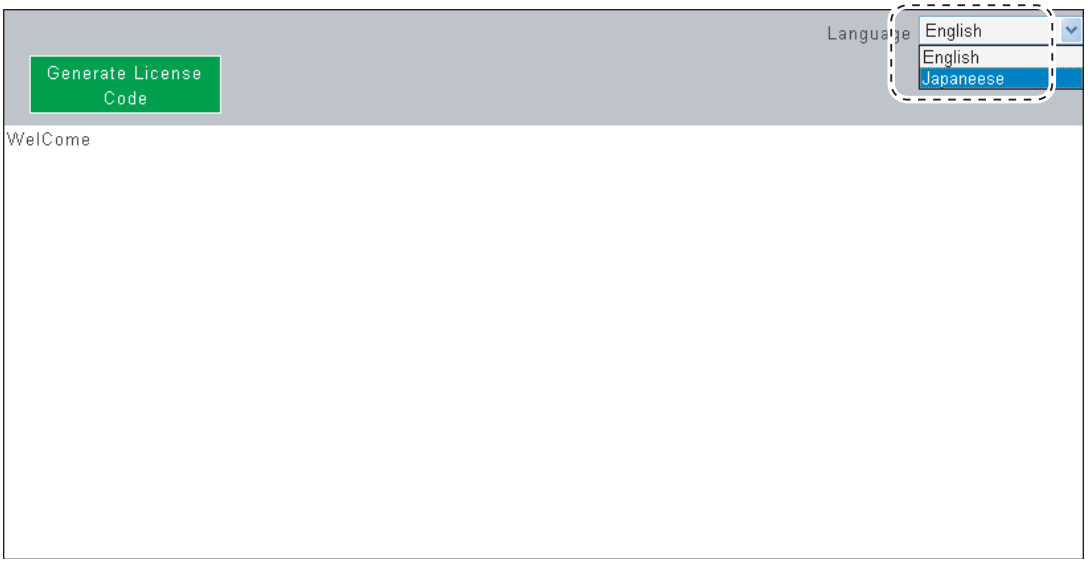
### 3.4.1 Activation

1. Prepare “token certification.”
2. Call the Billing Setting to the screen.
See P.4
3. Display and confirm the serial number and request code with the following procedure.
[License Management] → [Request code]
See P.6

**NOTE**

- **The function enhanced version firmware for i-Option is set at the factory before shipping, this procedure is not needed.**

4. Access to LMS web site (for service).
5. Click [License Registration].
6. Select the language.

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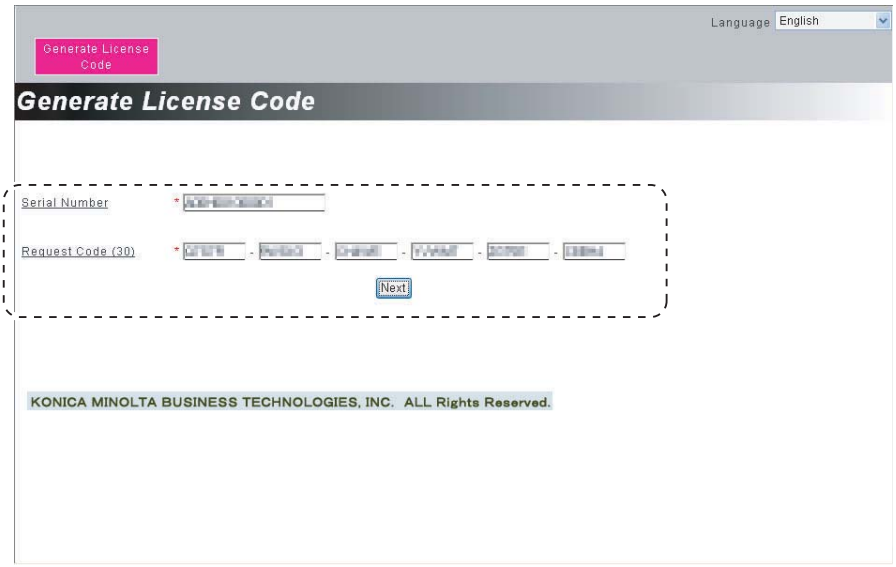
*7.* Enter request code and serial number, and click [Next].

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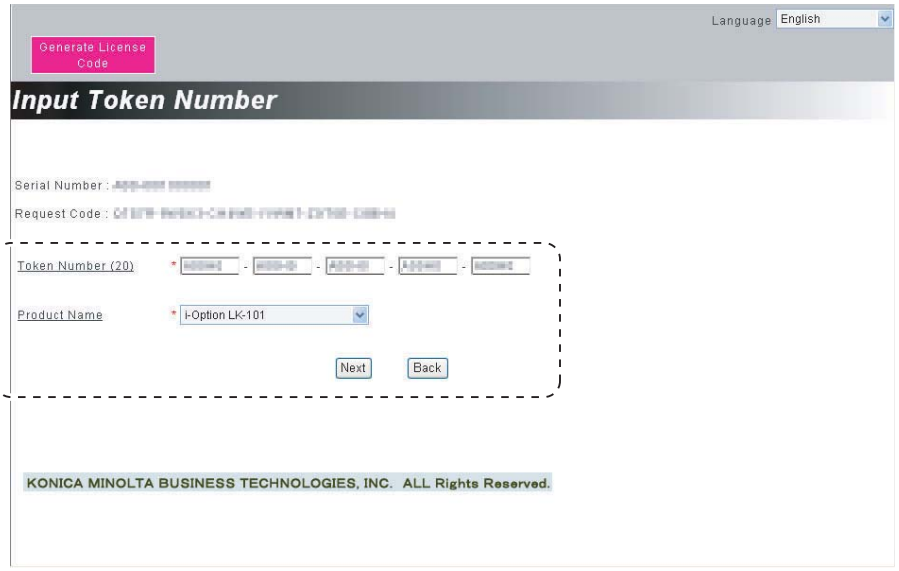
*8.* Enter “token number” described in the “token certificate”, and select the product name.
*9.* Click [Next].

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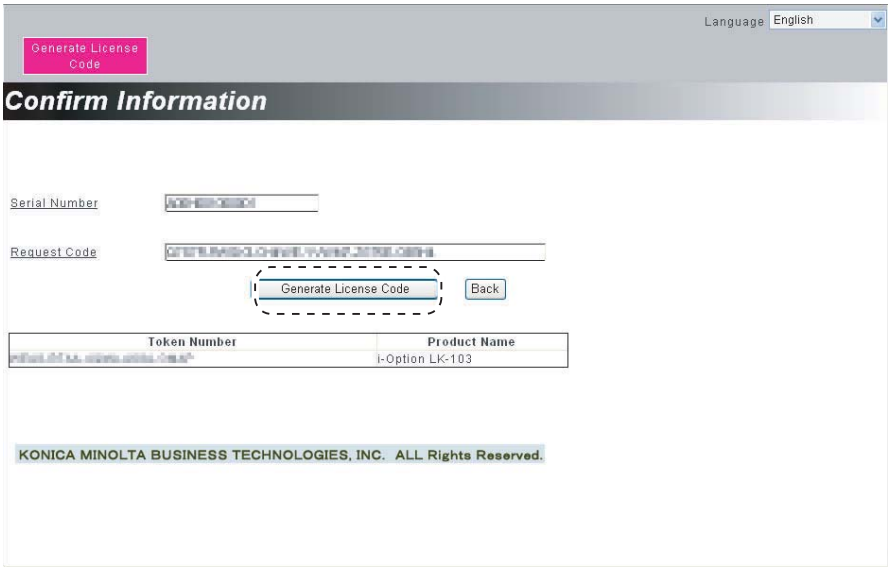
*10.* Confirm the registered information, and click [Generate License Code].

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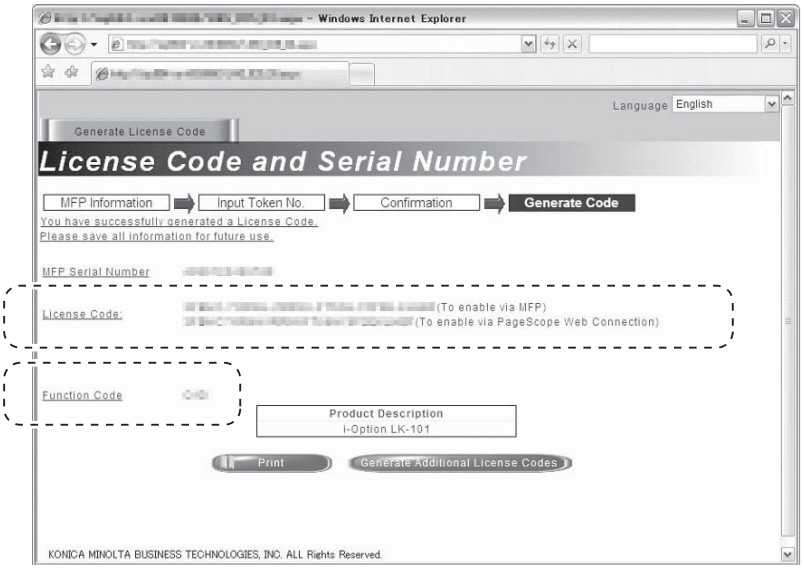
*11.* LMS issues license code and function code.

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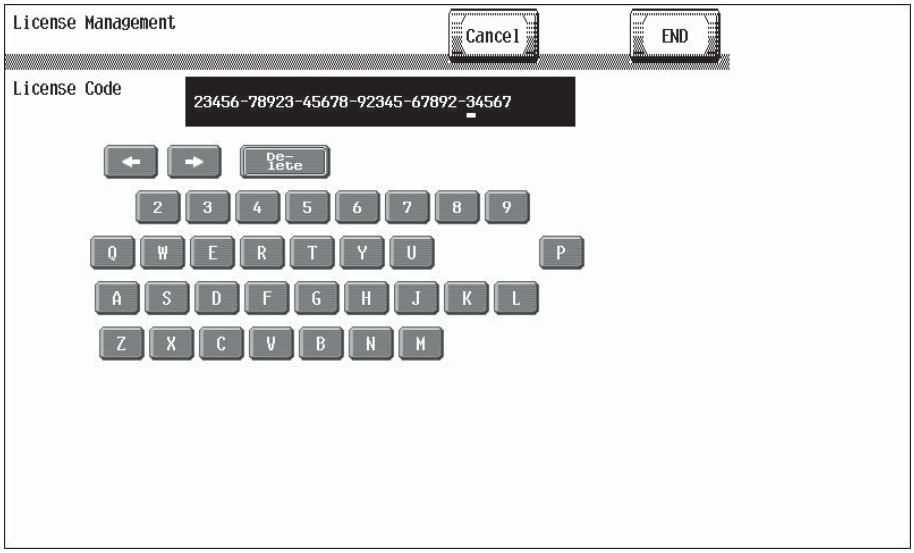
*12.* Select [Activation] → [License code] at the MFP.

*13.* Enter the license code and the function code issued by LMS using the keyboard on the screen, and touch [END].

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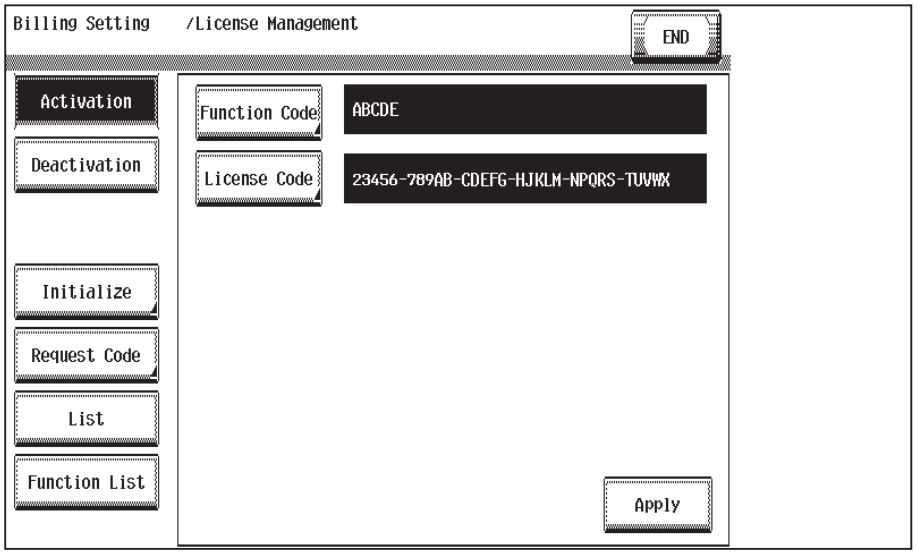
*14.* Touch [Apply].

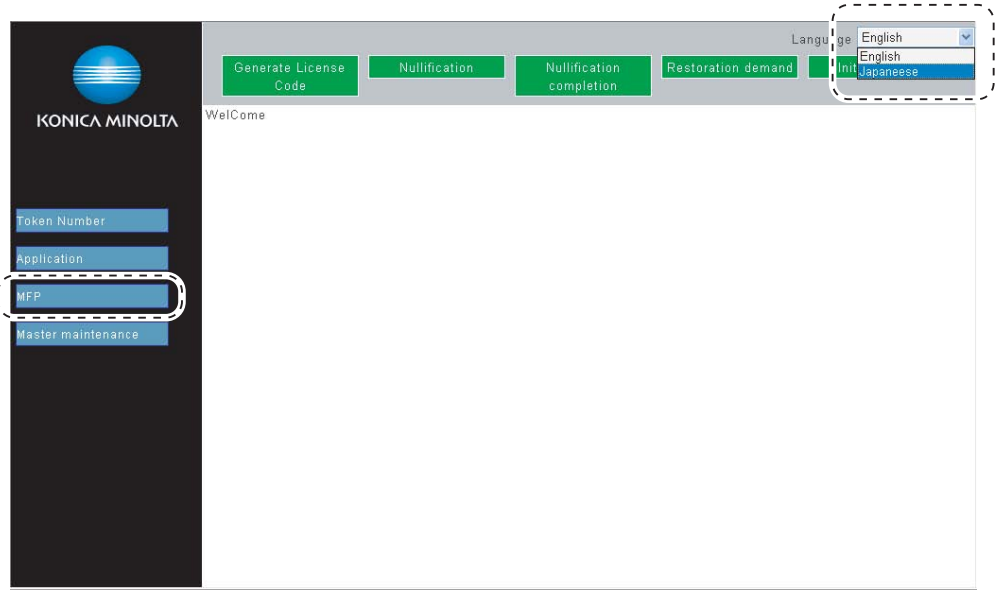



A0P0F3E562DA

*15.* Follow the massage appearing on the screen and turn OFF and ON the main power switch.

### 3.4.2 Deactivation

1. Call the Billing Setting to the screen.
See P.4
2. Display and confirm the serial number with the following procedure.
[License Management] → [Request code]
See P.6
3. Access to LMS web site (for service).
4. Click [MFP] and select the language.

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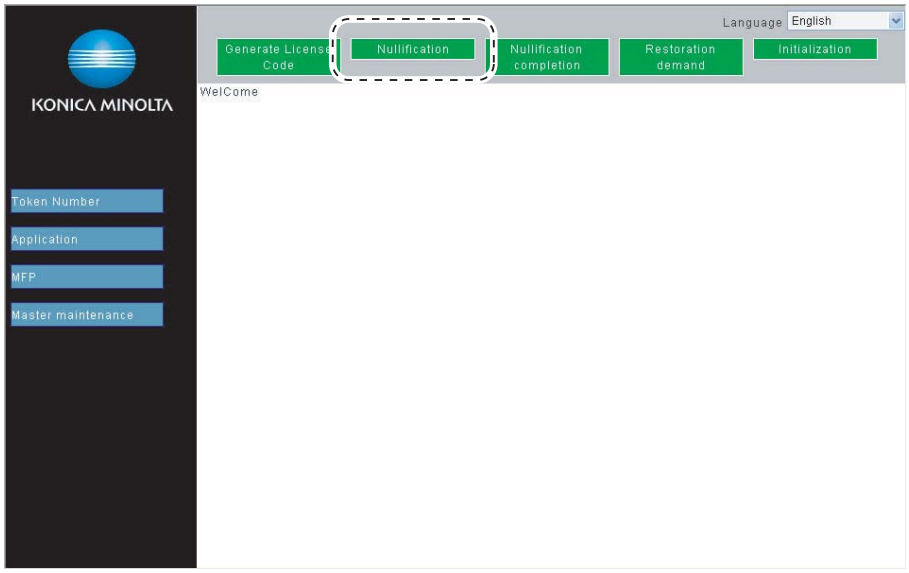
5. Click [Nullification].

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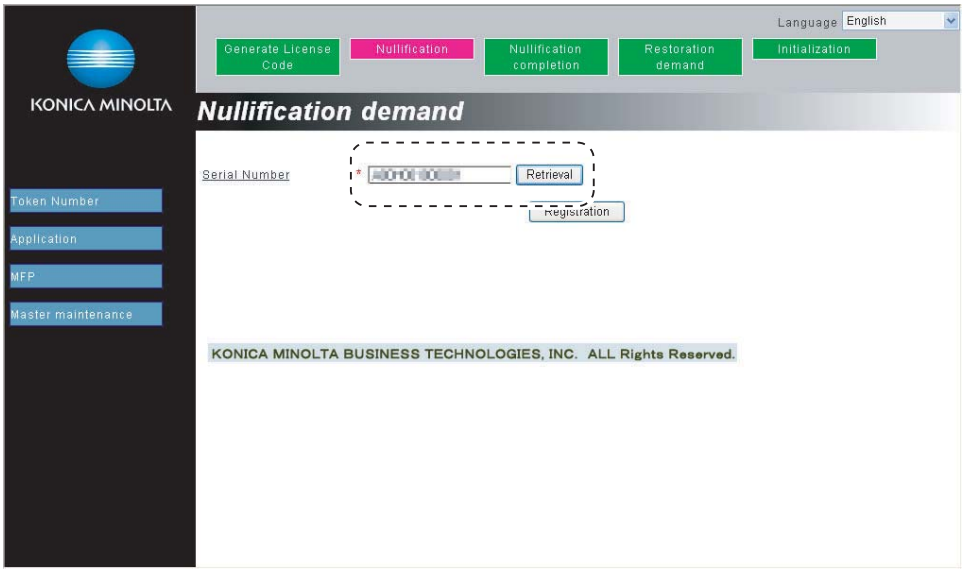
*6.* Enter serial number, and click [Retrieval].

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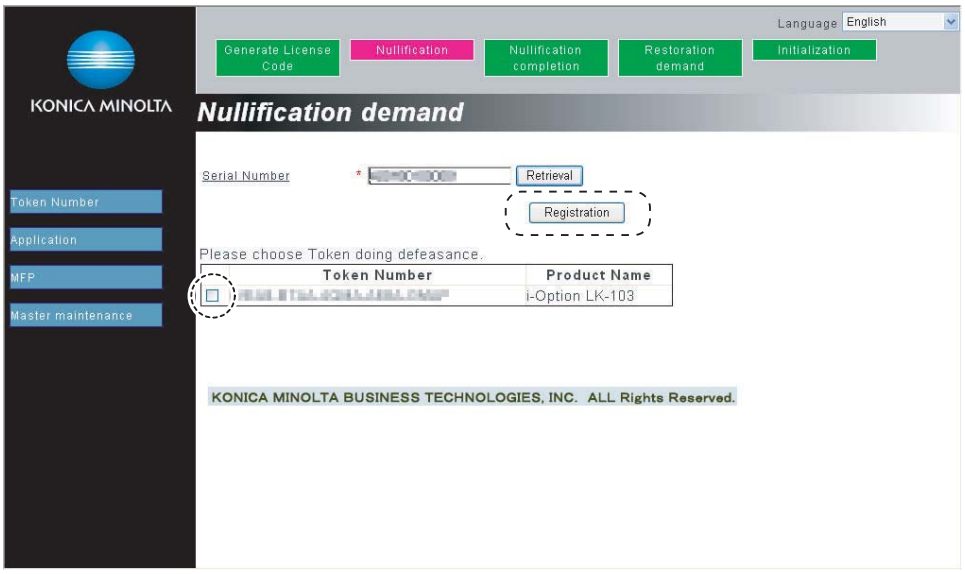
*7.* Select i-Option to be deactivated, and click [Registration].

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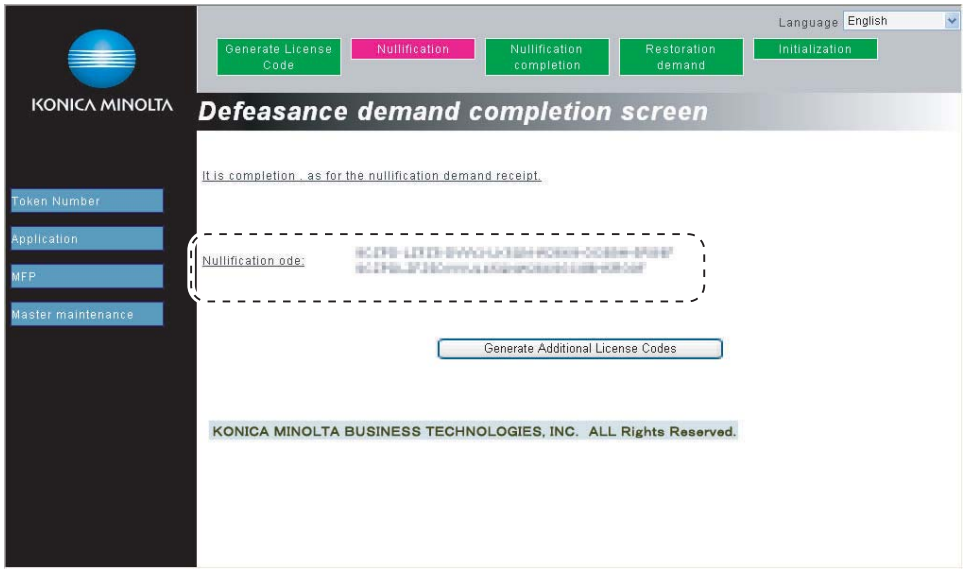
*8.* Nullification code is issued.

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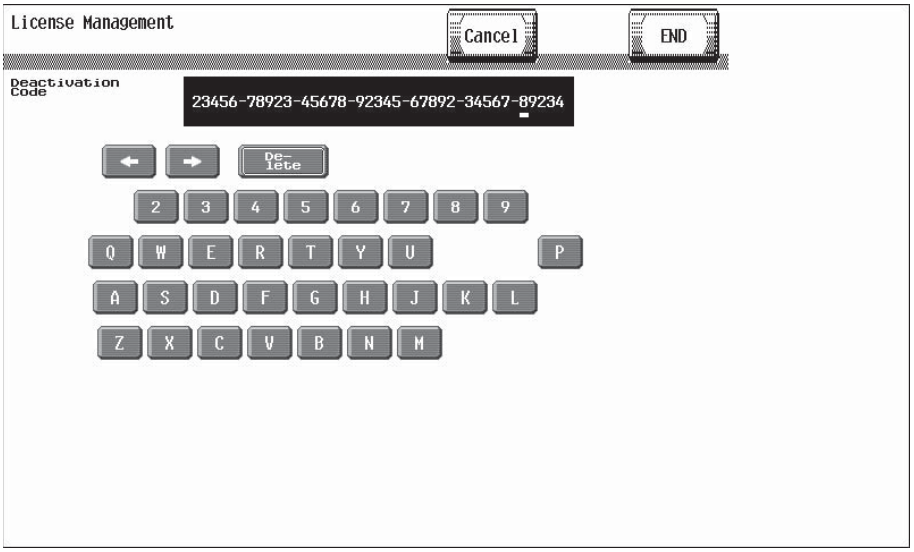
*9.* Select [Deactivation] → [Deactivation code] at the MFP.

*10.* Enter the nullification code issued by LMS using the keyboard on the screen, and touch [END].


License Management
Cancel
END
Deactivation Code
23456-78923-45678-92345-67892-34567-89234
De-lete
2 3 4 5 6 7 8 9
Q W E R T Y U P
A S D F G H J K L
Z X C V B N M

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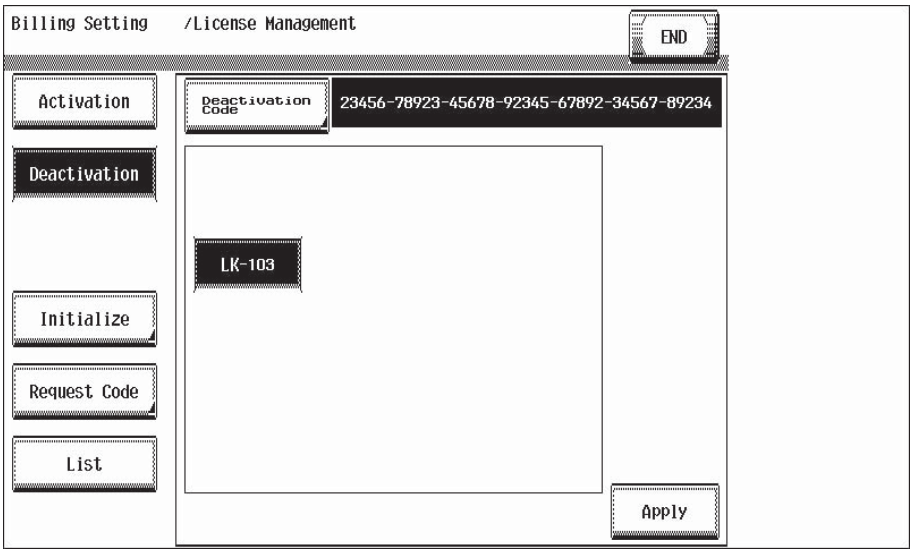
*11.* Select i-Option to be deactivated, and touch [Apply].

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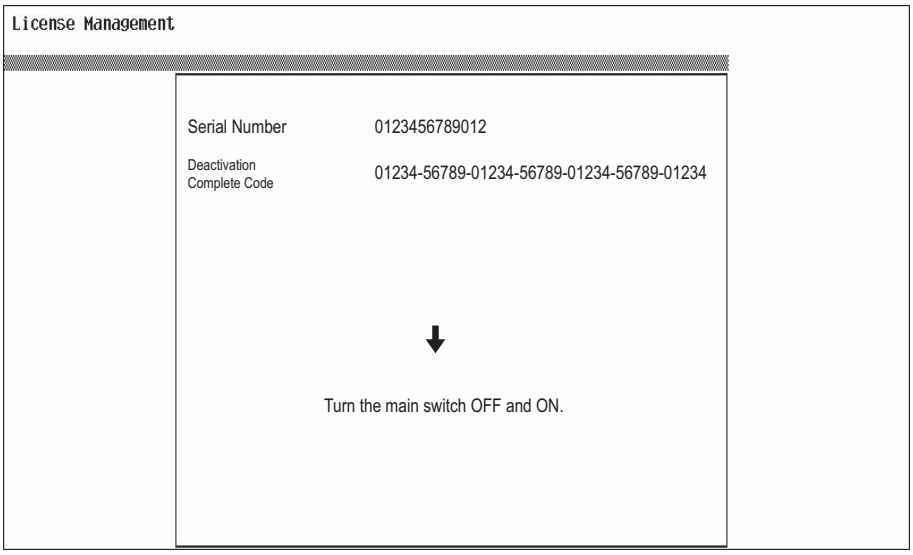
*12.* When the deactivation is done appropriately, serial number and deactivation complete code are issued.

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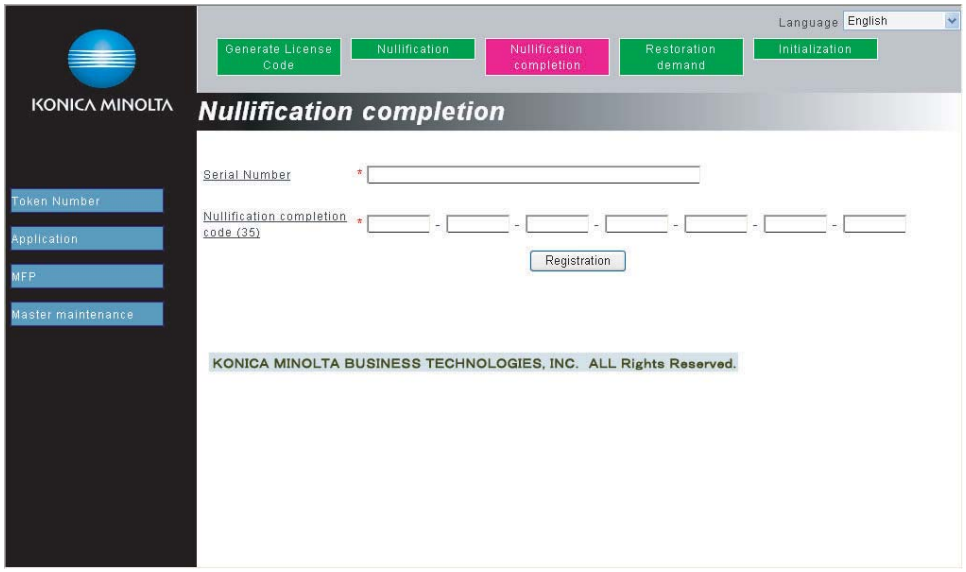
**NOTE**

- **When A4S or 8 $^{1}/_{2}$ x 11S is set to the paper feed tray, the above-mentioned serial number and deactivation complete code can be printed out by pressing the start key.**
- **Serial number and deactivation complete code can be confirmed in [List] available from [License Management].**

*13.* Follow the message appearing on the screen and turn OFF and ON the main power switch.

*14.* Click [Nullification completion] at LMS web site (for service).

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*15.* Enter serial number and nullification code, and click [Registration].

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*16.* Message for nullification completion appears.

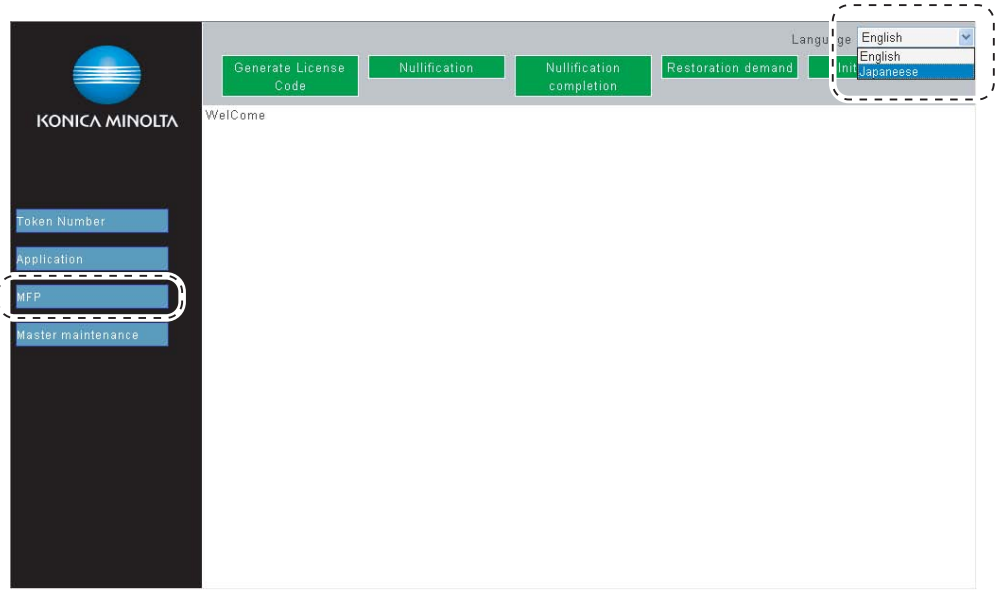
### 3.4.3 Repair

1. Call the Billing Setting to the screen.
See P.4
2. Display and confirm serial number, repair request code and request code with the following procedure.
[License Management] → [Repair] → [Repair Request Code]
See P.6

**NOTE**

- **Do not turn OFF/ON the main power switch until the repair code is input after this procedure.**

3. Access to LMS web site (for service).
4. Click [MFP] and select the language.

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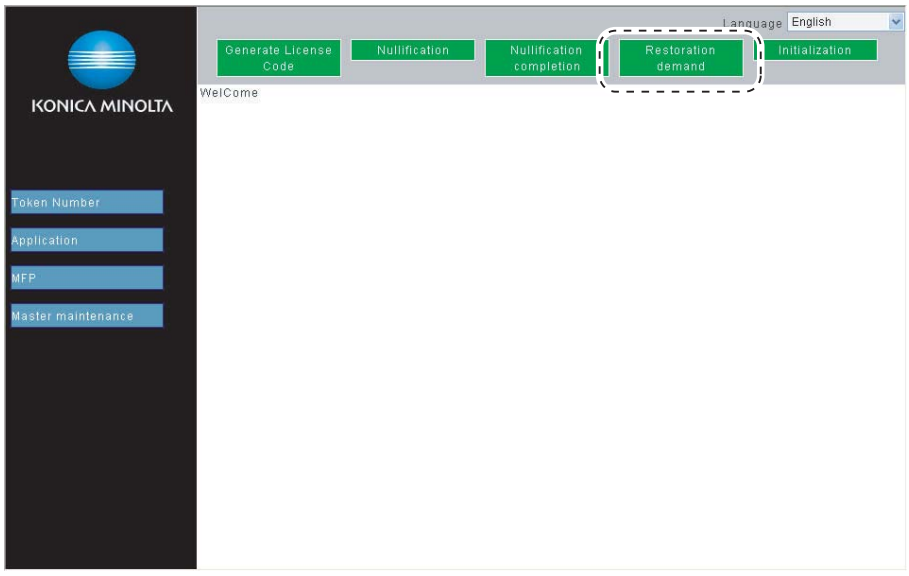
5. Click [Restoration demand].

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*6.* Enter serial number, restoration demand code and request code, and click [Registration].

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*7.* Request permission code is issued.
If any function needs to be activated, appropriate license code is also issued.

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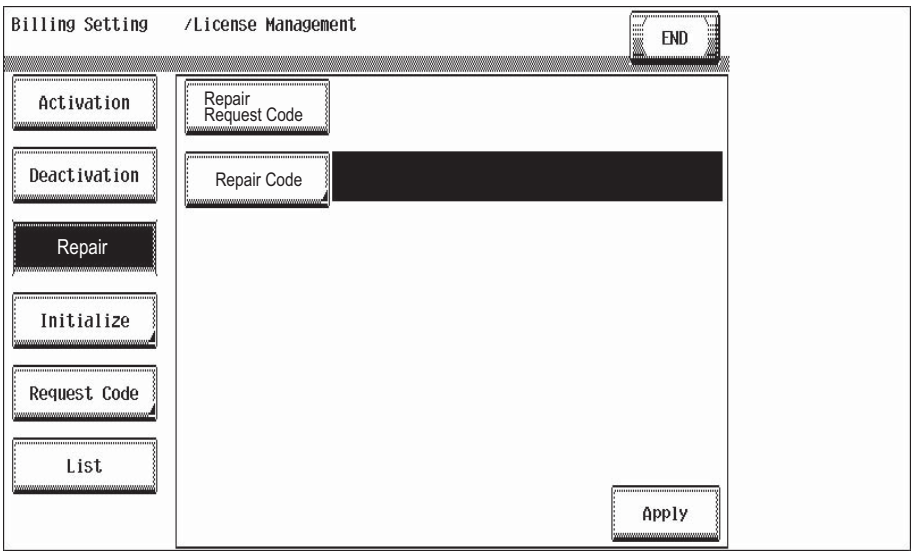
*8.* Select [Repair] → [Repair Code] at the MFP.
*9.* Enter the request permission code issued by LMS using the keyboard on the screen, and touch [END].

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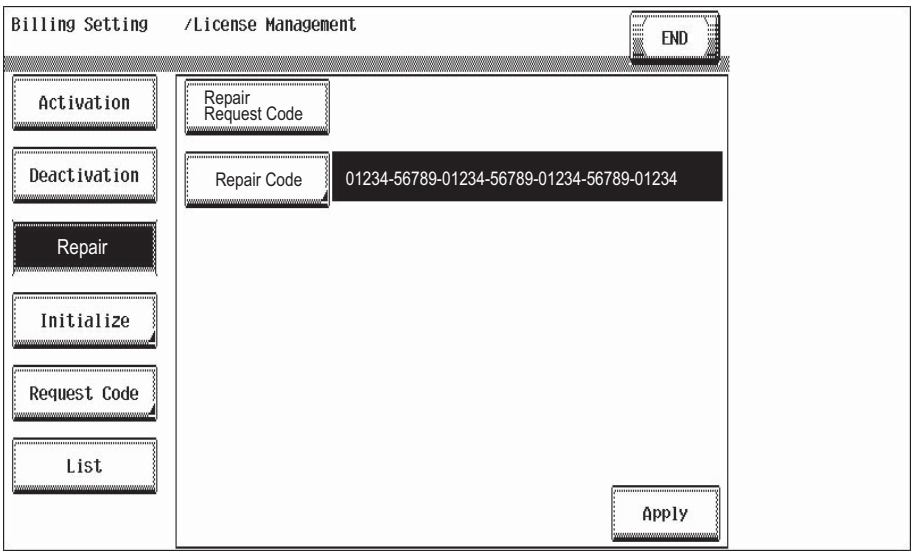
*10.* Touch [Apply].

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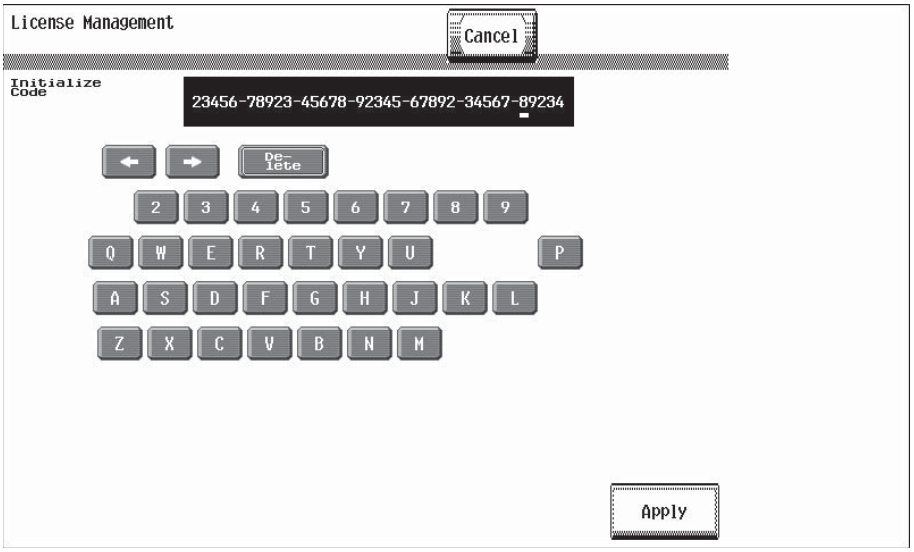
*11.* Close Service Mode, confirm that the functions work correctly.

### 3.4.4 Initialize

- When license management information cannot be repaired, initialize the information with the following procedure.

1. Contact the license management section of sales company to report the information necessary to issue the initialize code.
2. The license management section of sales company supplies the initialize code.
3. Call the Billing Setting to the screen.
See P.4
4. Touch [License Management] → [Initialize].
5. Enter the initialize code issued by call center using the keyboard on the screen, and touch [Apply].


License Management
Cancel
Initialize Code
23456-78923-45678-92345-67892-34567-89234
De-lete
2 3 4 5 6 7 8 9
Q W E R T Y U P
A S D F G H J K L
Z X C V B N M
Apply

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6. After completing the initialization, follow the message appearing on the screen and turn OFF and ON the main power switch.

# TROUBLESHOOTING

# 4. TROUBLESHOOTING OF i-Option

## 4.1 Outline

### 4.1.1 Structure of license management

- The functions available with i-Option can be activated by entering “License code” to the MFP.
- License code is issued and controlled by License Management System (LMS).
  To prevent unauthorized use of the license code, each MFP is identified individually so that the license code cannot be activated unless it matches with the authorized MFP.

### 4.1.2 License management information

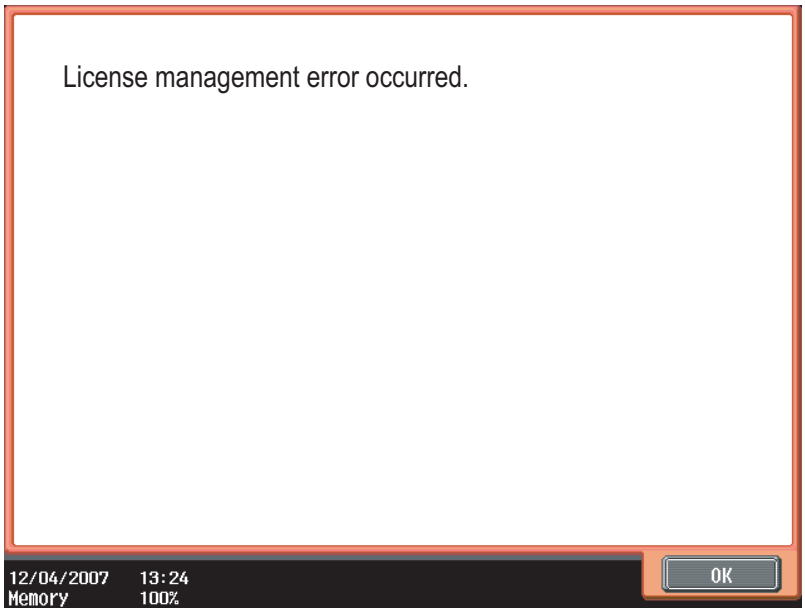
- Since license code needs to identify each MPF, it is issued using the serial number of MFP and “unique value” that is generated inside MFP.
- The “unique value” is stored to the NVRAM board on the MFP board and at the same time some parts of it are memorized by service EEPROM board. The activated function cannot be used unless the both figures conform.
  Since these figures are out of target of NVRAM data back, when any trouble occurs at either nonvolatile memory or either of them is replaced with new one, “license management error” is generated due to discordance of the figures.

## 4.2 Error message

### 4.2.1 License management error

- When abnormal value is detected in the license management information that is stored to the NVRAM board or service EEPROM board, or some values are detected cleared, warning is issued to let the user know the abnormality.
- The abnormality is detected at the timing of start-up or restart due to any condition.
- When the abnormality is detected, the corresponding i-Option function cannot be used, other ordinal functions, however, such as copy, scanning, print or etc, can be used without interruption.

#### A. Example of error message

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#### B. Main reasons of trouble

- The following shows the possible trouble factors and their countermeasure.

| Board replacement | Countermeasure |
|---|---|
| • When NVRAM board on MFP board is replaced with new one. | Repair ⇒ Activation |
| • When service EEPROM board is replaced with new one. | Repair |
| • When NVRAM board and service EEPROM board are replaced with the new ones at the same time. | Initialize ⇒ Activation |
| • When mounting the NVRAM board of the machine whose function(s) have already been activated. | Initialize ⇒ Activation |
| • When mounting the service EEPROM board of the machine whose function(s) have already been activated. | Initialize ⇒ Activation |
| • When mounting the NVRAM board and the service EEPROM board of the machine whose function(s) have already been activated. | Initialize ⇒ Activation |

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# UPDATING STATUS

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